

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P546477

Luminaire Tested: **FMR-24-4-LD4-1HI-40-UNV-82-96-EDD**

Issue Date: 6/15/2021

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



Test Information

Test Method: LM-79-08
Report Number: P546477
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 6/15/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FMR-24-4-LD4-1HI-40-UNV-82-96-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

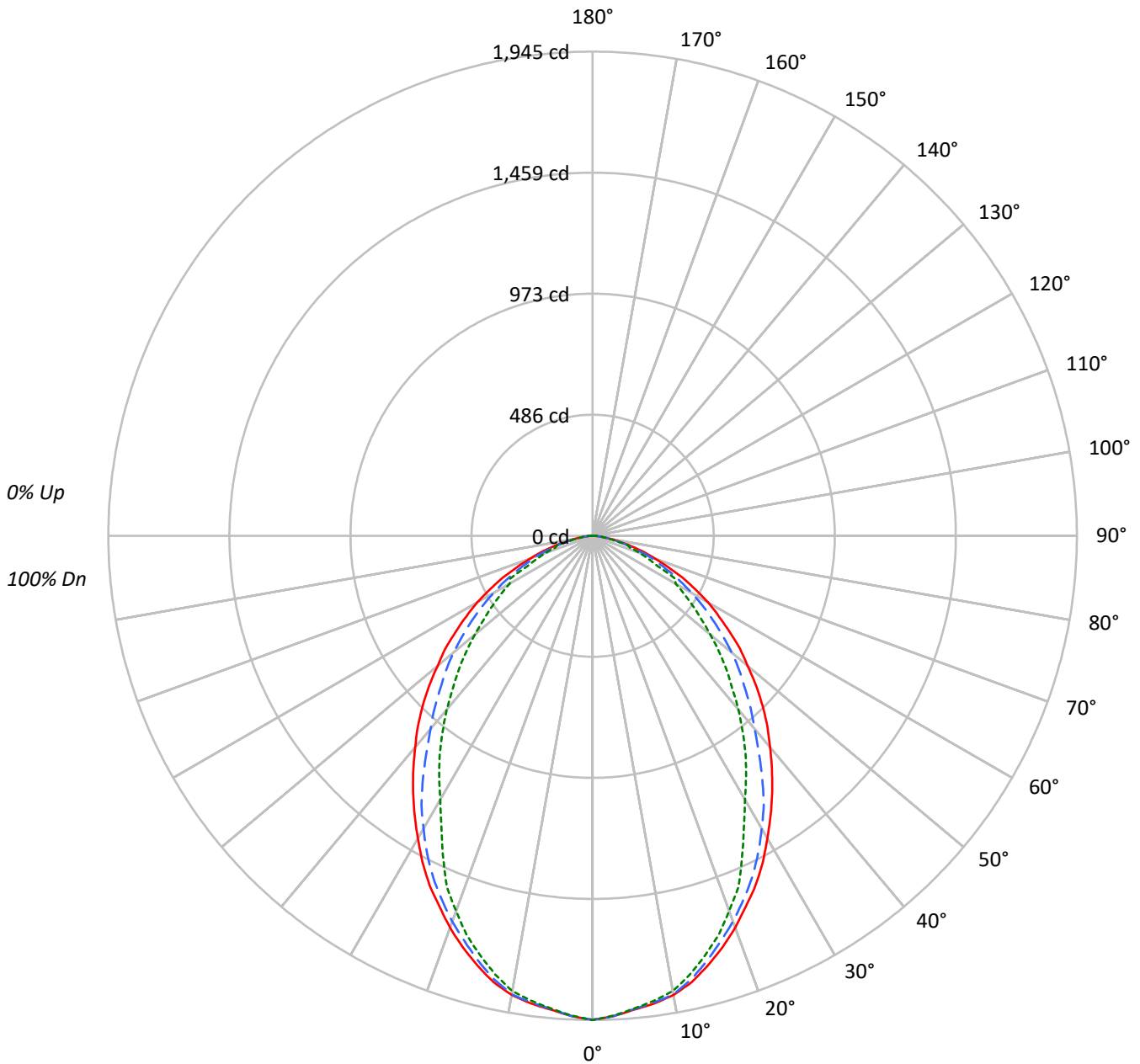
Lumens per Lamp: N/A
Luminaire Lumens: 3818.0 lumens
Efficiency: N/A
Efficacy: 88.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT

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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2617	2617	2617
5°	2581	2578	2575
10°	2559	2556	2537
15°	2490	2465	2430
20°	2398	2360	2295
25°	2300	2250	2110
30°	2180	2110	1900
35°	2064	1950	1758
40°	1947	1777	1599
45°	1835	1643	1446
50°	1699	1525	1290
55°	1572	1382	1155
60°	1440	1234	1035
65°	1267	1081	916
70°	1044	947	779
75°	830	725	760
80°	557	523	488
85°	347	417	486



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	181.0	4.7
10°-20°	496.8	13.0
20°-30°	687.8	18.0
30°-40°	733.4	19.2
40°-50°	669.1	17.5
50°-60°	524.2	13.7
60°-70°	341.7	8.9
70°-80°	151.4	4.0
80°-90°	32.5	0.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1365.7	35.8
0°-40°	2099.2	55.0
0°-60°	3292.5	86.2
0°-90°	3818.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3818.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1945	1945	1945	1945	1945	
5°	1911	1909	1909	1907	1907	181
15°	1788	1788	1770	1752	1745	503
25°	1549	1540	1515	1461	1421	711
35°	1257	1248	1187	1097	1070	786
45°	964	944	863	791	760	743
55°	670	650	589	519	492	601
65°	398	376	340	346	288	392
75°	160	148	139	133	146	171
85°	22	25	27	29	32	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1944.8	1944.8	1944.8	1944.8	1944.8
2.5°	1931.3	1931.3	1931.3	1929.1	1929.1
5°	1911.1	1908.9	1908.9	1906.6	1906.6
7.5°	1895.4	1893.1	1890.9	1888.6	1884.1
10°	1872.9	1872.9	1870.6	1859.4	1857.2
12.5°	1836.9	1834.7	1825.7	1809.9	1805.4
15°	1787.5	1787.5	1769.5	1751.5	1744.7
17.5°	1733.5	1731.2	1708.8	1690.8	1681.8
20°	1675.0	1670.5	1648.1	1618.8	1603.1
22.5°	1609.8	1609.8	1582.9	1544.6	1528.9
25°	1549.1	1540.1	1515.4	1461.4	1421.0
27.5°	1479.4	1465.9	1439.0	1362.5	1315.3
30°	1403.0	1396.2	1358.0	1259.1	1223.1
32.5°	1331.0	1319.8	1279.3	1175.9	1146.7
35°	1256.8	1247.8	1187.1	1097.2	1070.2
37.5°	1182.6	1171.4	1095.0	1023.0	989.3
40°	1108.4	1095.0	1011.8	946.6	910.6
42.5°	1038.7	1020.8	939.8	870.1	829.6
45°	964.5	944.3	863.4	791.4	759.9
47.5°	890.4	872.4	798.2	724.0	688.0
50°	811.7	795.9	728.5	654.3	616.1
52.5°	746.5	721.7	656.5	582.3	550.9
55°	670.0	649.8	589.1	519.4	492.4
57.5°	600.3	580.1	523.9	458.7	436.2
60°	535.1	505.9	458.7	402.5	384.5
62.5°	463.2	440.7	400.2	353.0	375.5
65°	398.0	375.5	339.5	346.2	287.8
67.5°	326.0	314.8	283.3	251.8	242.8
70°	265.3	251.8	240.6	206.8	197.9
72.5°	211.3	197.9	182.1	164.1	157.4
75°	159.6	148.4	139.4	132.7	146.1
77.5°	110.2	105.7	98.9	92.2	89.9
80°	71.9	69.7	67.5	65.2	63.0
82.5°	42.7	42.7	42.7	42.7	42.7
85°	22.5	24.7	27.0	29.2	31.5
87.5°	13.5	13.5	15.7	18.0	20.2
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By 670246072 / DESKTOP-MV3F9LC





— 0°-180° - - 45°-225° - - - - 90°-270°







(END OF REPORT)